RAW SEQUENCE LISTING
PATENT APPLICATION: **US/09/463,844**

DATE: 09/21/2001
TIME: 18:44:54

Input Set : **A:\Dj265461.app**
Output Set: **N:\CRF3\09212001\I463844.raw**

```
 3 <110> APPLICANT: FLANNERY, ANGELA VERONICA
 4        FINNEGAN, MARIA CHRISTINA MARTINA
 6 <120> TITLE OF INVENTION: ZGGBP1, NOVEL PEPTIDES RELATED TO BIPOLAR AFFECTIVE
 7        DISORDERS TYPE 1, SEQUENCES AND USES THEREOF
 9 <130> FILE REFERENCE: DJB/009901/0265461
11 <140> CURRENT APPLICATION NUMBER: 09/463,844
12 <141> CURRENT FILING DATE: 2000-02-01
14 <150> PRIOR APPLICATION NUMBER: PCT/GB98/022059
15 <151> PRIOR FILING DATE: 1998-07-28
17 <150> PRIOR APPLICATION NUMBER: GB 9716162.4
18 <151> PRIOR FILING DATE: 1997-08-01
20 <160> NUMBER OF SEQ ID NOS: 17
22 <170> SOFTWARE: PatentIn Ver. 2.1
24 <210> SEQ ID NO: 1
25 <211> LENGTH: 5154
26 <212> TYPE: DNA
27 <213> ORGANISM: Homo sapiens
29 <400> SEQUENCE: 1
30 caagcgcgca attaaccctc actaaaggga acaccaacac gtcgccagga ctgcgccgtt  60
31 cgctgcgctc ataggcggcg atttcatcaa gggtggcaag gatcgcctgg tcgacggtca 120
32 ggtcgtcctc gacgcggttg ccctcctcgt cctgttccag ggtgagtggg cgataccagg 180
33 tgtccaccgg gaaggtacgg cccgacacct cgacaatcgg cgcatcgtcg aagtgcttgg 240
34 aaaagcgctc caggtcgatg gtggccgagg tgatgatgac tttcaggtcg gggcgacgcg 300
35 gcaacagggt cttgaggtag ccgagcagga agtcgatgtt caggctgcgt tcgtgggctt 360
36 cgtcgacgac aggctcgcgt tatggctccg ctttctgcgg ctctcctacc ctggcatggt 420
37 gtgtgtgtgt gcctgtgtgc tacggagagt cccgtattct cagagtaaaa gttgttctgg 480
38 aatgatctcg ccaaaaagga catctttgga gccagtgatc cgtatgtgaa actttcattg 540
39 tacgtagcgg atgagaatag agaacttgct ttggtccaga caaaaacaat taaaaagaca 600
40 ctgaacccaa aatggaatga agaattttat ttcagggtaa acccatctaa tcacagactc 660
41 ctatttgaag tatttgacga aaatagactg acacgagacg acttcctggg ccaggtggac 720
42 gtgcccctta gtcaccttcc gacagaagat ccaaccatgg agcgaccccta tacatttaag 780
43 gactttctcc tcagaccaag aagtcataag tctcgagtta agggattttt gcgattgaaa 840
44 atggcctata tgccaaaaaa tggaggtcaa gatgaagaaa acagtgacca gagggatgac 900
45 atggagcatg gatgggaagt tgttgactca aatgactcgg cttctcagca ccaagaggaa 960
46 cttcctcctc ctcctctgcc tcccgggtgg aagaaaaag tggacaattt aggccgaact 1020
47 tactatgtca accacaacaa ccggaccact cagtggcaca gaccaagcct gatggacgtg 1080
48 tcctcggagt cggacaataa catcagacag atcaaccagg aggcagcaca ccggcgcttc 1140
49 cgctcccgca ggcacatcag cgaagacttg gagcccgagc cctcggaggg cggggatgtc 1200
50 cccgagcctt gggagaccat ttcagaggaa gtgaatatcg ctggagactc tctcggtgtg 1260
51 gtttttgcccc caccaccggc ctccccagga tctcggacca gccctcagga gctgtcagag 1320
52 gaactaagca gaaggcttca gatcactcca gactccaatg gggaacagtt cagctctttg 1380
53 attcaaagag aaccctcctc aaggttgagg tcatgcagtg tcaccgacgc agttgcagaa 1440
54 cagggccatc taccaccgcc atcagtggcc tatgtacata ccacgccggg tctgccttca 1500
55 ggctgggaag aaagaaaaga tgctaagggg cgcacatact atgtcaatca taacaatcga 1560
56 accacaactt ggactcgacc tatcatgcag cttgcagaag atggtgcgtc cggatcagcc 1620
57 acaaacagta caaccatct aatcgagcct cagatccgcc ggcctcgtag cctcagctcg 1680
58 ccaacagtaa ctttattgcc ccgctggagg gtgccaagga ctcacccgta cgtcgggctg 1740
```

RAW SEQUENCE LISTING   DATE: 09/21/2001
PATENT APPLICATION: **US/09/463,844**   TIME: 18:44:54

Input Set : **A:\Dj265461.app**
Output Set: **N:\CRF3\09212001\I463844.raw**

```
 59 tgaaagacac cctttccaac ccacagtccc cacagccatc accttacaac tcccccaaac 1800
 60 cacaacacaa agtcacacag agcttcttgc cacccggctg ggaaatgagg atagcgccaa 1860
 61 acggccggcc cttcttcatt gatcataaca caaagactac aacctgggaa gatccacgtt 1920
 62 tgaaatttcc agtacatatg cggtcaaaga catctttaaa ccccaatgac cttggccccc 1980
 63 ttcctcctgg ctgggaagaa agaattcact tggatggccg aacgttttat attgatcata 2040
 64 atagcaaaat tactcagtgg gaagacccaa gactgcagaa cccagctatt actggtccgg 2100
 65 ctgtccctta ctccagagaa tttaagcaga aatatgacta cttcaggaag aaattaaaga 2160
 66 aacctgctga tatccccaat aggtttgaaa tgaaacttca cagaaataac atatttgaag 2220
 67 agtcctatcg gagaattatg tccgtgaaaa gaccagatgt cctaaaagct agactgtgga 2280
 68 ttgagtttga atcagagaaa ggtcttgact atggggtgt ggccagagaa tggttcttct 2340
 69 tactgtccaa agagatgttc aaccctact acggcctctt tgagtactct gccacggaca 2400
 70 actacaccct tcagatcaac cctaattcag gcctctgtaa tgaggatcat ttgtcctact 2460
 71 tcacttttat tggaagagtt gctggtctgg ccgtatttca tgggaagctc ttagatggtt 2520
 72 tcttcattag accattttac aagatgatgt tgggaaagca gataaccctg aatgacatgg 2580
 73 aatctgtgga tagtgaatat tacaactctt tgaaatggat cctggagaat gaccctactg 2640
 74 agctggacct catgttctgc atagacgaag aaaactttgg acagacatat caagtggatt 2700
 75 tgaagcccaa tgggtcagaa ataatggtca caaatgaaaa caaaagggaa tatatcgact 2760
 76 tagtcatcca gtggagattt gtgaacaggg tccagaagca gatgaacgcc ttcttggagg 2820
 77 gattcacaga actacttcct attgatttga ttaaaatttt tgatgaaaat gagctggagt 2880
 78 tgctcatgtg cggcctcggt gatgtggatg tgaatgactg gagacagcat tctatttaca 2940
 79 agaacggcta ctgcccaaac caccccgtca ttcagtggtt ctggaaggct gtgctactca 3000
 80 tggacgccga aaagcgtatc cggttactgc agtttgtcac agggacatcg cgagtaccta 3060
 81 tgaatggatt tgccgaactt tatggttcca atggtcctca gctgtttaca atagagcaat 3120
 82 ggggcagtcc tgagaaactg cccagagctc acacatgctt taatcgcctt gacttacctc 3180
 83 catatgaaac ctttgaagat ttacgagaga aacttctcat ggccgtggaa aatgctcaag 3240
 84 gatttgaagg ggtggattaa gcaccctgtg cctcgggggt ggttgttctt caagcaagtt 3300
 85 ctgcttgcac ttttgcattt gcctaacaga cttttgcaga ggcgatggca gagagcagct 3360
 86 gcaggcatgg tccctggagc cgagccttca ccacgcactc gtccaagttc gggatgcggg 3420
 87 aacctggtcc cagcttgagt tcctgccttt cccaccacaa attatcaact ggttgatgtg 3480
 88 tacactaatt acatttcagg aggacttaat gctatttatg ttgtcctctg caggcaaagc 3540
 89 ccttaataaa tattttacat cctttctaat gacaatgaat ggaattaatc actcaacagg 3600
 90 tatagtatta cgactcatgt ttacttttta aaatgattta gaccgatttt cagattttat 3660
 91 ttcgttatga ttaaagatgt ctcatgtact tggaaaagtg agcatttttt tttttttttg 3720
 92 tatttcactt tcataccagg cttaatgtca atgacatttt tatttttgaa gtactctgac 3780
 93 acctccaccc tctactttat tagaattgga aggcaaattt ttgtccaaaa acctacagac 3840
 94 aagtactttg agagaatttc caatataata ttagacataa tgataatttt ttccatactc 3900
 95 agaatgaaaa actggatatt acgttttgt tttggggttt ttttgtacaa atttagctaa 3960
 96 tagctacagg ctgagagaat tgtaacatag catgacaaat tttgtgttga cttgaaagga 4020
 97 atcacaccat tattccttag aagtaattac atgtgttcta acacatttga gacagggttg 4080
 98 gactcccatt tctcatccga gaaattactt aacccttcct gggcgctgta cagtcatctt 4140
 99 ttattctatt tcctctttgc tgtttgtagt agagacattt tgaatgaaac ttggcactgc 4200
100 ttgattcaaa actgtggaaa ccagatctgt ttagtctcct gtttgtatgc gtttgctaat 4260
101 ggtagctaaa taaccagttt ttgttgtaaa tgcaccaatt ctgaaggcac tttatgtact 4320
102 acatggaggt catatctggt tttgttttta ttttttttatc atgaacatta aatgtgatga 4380
103 tgatttcttt tccctgcaca catctttccg gtgcaatatc tatcaattgt gaatctggct 4440
104 gctggtgtat aaaaacctgg atgtaaagct gagcctacag acctgtcctc accaactgtt 4500
105 ttgtgatttc tactcaacta caaagattta tttaatgtac tcttaatcta actgagtttt 4560
106 gttaccaatg acctgttgca tgcttcaata ccgtgtactg cctgagttgt gcctcttgtg 4620
107 tgctagatta aaagtgagac agagacttga cttgatcctc tgagcctcaa gctattgagc 4680
```

RAW SEQUENCE LISTING
PATENT APPLICATION: US/09/463,844

Input Set : A:\Dj265461.app
Output Set: N:\CRF3\09212001\I463844.raw

```
108 tggtagtggc agaggactga gggtacctgc acagtttgat tcttttccca cgttgtaagt 4740
109 ctccattgca gaattgtcgt gcgtttgaga aaacacctga ggcagtgtgg gagttgaacg 4800
110 accctgctgt ccttttttaac ctgtgttgtc ctagacctgt cggggcagtc agggacact 4860
111 agagatttga tctcatgcga gtcatcaata ggacaaaaaa gttgtggttt ggggaggtct 4920
112 gtttgttaca taaaaaggac ctttcggtgt aagaaattgc cgttttttacc ctgccctggc 4980
113 tggcatgtga gaagccatgg aaggttgtgg ttgtaaatga gttgtctaaa ggggtgcaga 5040
114 ggcctgaggt ttctaaaaga aggtagattt ctacagagct gagtgttggt tcctttttct 5100
115 tattggttga aaattacctg gtagtgatca gaaaacttag atgctatgta actc         5154
```

118 <210> SEQ ID NO: 2
119 <211> LENGTH: 975
120 <212> TYPE: PRT
121 <213> ORGANISM: Homo sapiens
123 <220> FEATURE:
124 <221> NAME/KEY: MOD_RES
125 <222> LOCATION: (455)
126 <223> OTHER INFORMATION: Any amino acid
128 <400> SEQUENCE: 2

```
129 Met Phe Arg Leu Arg Ser Trp Ala Ser Ser Thr Thr Gly Ser Arg Tyr
130   1               5                  10                  15
132 Gly Ser Ala Phe Cys Gly Ser Pro Thr Leu Ala Trp Cys Val Cys Val
133             20                  25                  30
135 Pro Val Cys Tyr Gly Glu Ser Arg Ile Leu Arg Val Lys Val Val Ser
136         35                  40                  45
138 Gly Ile Asp Leu Ala Lys Lys Asp Ile Phe Gly Ala Ser Asp Pro Tyr
139       50                  55                  60
141 Val Lys Leu Ser Leu Tyr Val Ala Asp Glu Asn Arg Glu Leu Ala Leu
142   65                  70                  75                  80
144 Val Gln Thr Lys Thr Ile Lys Lys Thr Leu Asn Pro Lys Trp Asn Glu
145                 85                  90                  95
147 Glu Phe Tyr Phe Arg Val Asn Pro Ser Asn His Arg Leu Leu Phe Glu
148             100                 105                 110
150 Val Phe Asp Glu Asn Arg Leu Thr Arg Asp Asp Phe Leu Gly Gln Val
151         115                 120                 125
153 Asp Val Pro Leu Ser His Leu Pro Thr Glu Asp Pro Thr Met Glu Arg
154       130                 135                 140
156 Pro Tyr Thr Phe Lys Asp Phe Leu Leu Arg Pro Arg Ser His Lys Ser
157 145                 150                 155                 160
159 Arg Val Lys Gly Phe Leu Arg Leu Lys Met Ala Tyr Met Pro Lys Asn
160                 165                 170                 175
162 Gly Gly Gln Asp Glu Glu Asn Ser Asp Gln Arg Asp Asp Met Glu His
163             180                 185                 190
165 Gly Trp Glu Val Val Asp Ser Asn Asp Ser Ala Ser Gln His Gln Glu
166         195                 200                 205
168 Glu Leu Pro Pro Pro Leu Pro Pro Gly Trp Glu Glu Lys Val Asp
169       210                 215                 220
171 Asn Leu Gly Arg Thr Tyr Tyr Val Asn His Asn Asn Arg Thr Thr Gln
172 225                 230                 235                 240
174 Trp His Arg Pro Ser Leu Met Asp Val Ser Ser Glu Ser Asp Asn Asn
175                 245                 250                 255
```

RAW SEQUENCE LISTING   DATE: 09/21/2001
PATENT APPLICATION: US/09/463,844   TIME: 18:44:54

Input Set : A:\Dj265461.app
Output Set: N:\CRF3\09212001\I463844.raw

```
177 Ile Arg Gln Ile Asn Gln Glu Ala Ala His Arg Arg Phe Arg Ser Arg
178         260             265             270
180 Arg His Ile Ser Glu Asp Leu Glu Pro Glu Pro Ser Glu Gly Gly Asp
181         275             280             285
183 Val Pro Glu Pro Trp Glu Thr Ile Ser Glu Glu Val Asn Ile Ala Gly
184     290             295             300
186 Asp Ser Leu Gly Val Val Leu Pro Pro Pro Ala Ser Pro Gly Ser
187 305             310             315             320
189 Arg Thr Ser Pro Gln Glu Leu Ser Glu Glu Leu Ser Arg Arg Leu Gln
190             325             330             335
192 Ile Thr Pro Asp Ser Asn Gly Glu Gln Phe Ser Ser Leu Ile Gln Arg
193         340             345             350
195 Glu Pro Ser Ser Arg Leu Arg Ser Cys Ser Val Thr Asp Ala Val Ala
196         355             360             365
198 Glu Gln Gly His Leu Pro Pro Pro Ser Val Ala Tyr Val His Thr Thr
199     370             375             380
201 Pro Gly Leu Pro Ser Gly Trp Glu Glu Arg Lys Asp Ala Lys Gly Arg
202 385             390             395             400
204 Thr Tyr Tyr Val Asn His Asn Asn Arg Thr Thr Thr Trp Thr Arg Pro
205             405             410             415
207 Ile Met Gln Leu Ala Glu Asp Gly Ala Ser Gly Ser Ala Thr Asn Ser
208         420             425             430
210 Asn Asn His Leu Ile Glu Pro Gln Ile Arg Arg Pro Arg Ser Leu Ser
211         435             440             445
213 Ser Pro Thr Val Thr Leu Xaa Ala Pro Leu Glu Gly Ala Lys Asp Ser
214     450             455             460
216 Pro Val Arg Arg Ala Val Lys Asp Thr Leu Ser Asn Pro Gln Ser Pro
217 465             470             475             480
219 Gln Pro Ser Pro Tyr Asn Ser Pro Lys Pro Gln His Lys Val Thr Gln
220             485             490             495
222 Ser Phe Leu Pro Pro Gly Trp Glu Met Arg Ile Ala Pro Asn Gly Arg
223         500             505             510
225 Pro Phe Phe Ile Asp His Asn Thr Lys Thr Thr Thr Trp Glu Asp Pro
226     515             520             525
228 Arg Leu Lys Phe Pro Val His Met Arg Ser Lys Thr Ser Leu Asn Pro
229     530             535             540
231 Asn Asp Leu Gly Pro Leu Pro Pro Gly Trp Glu Glu Arg Ile His Leu
232 545             550             555             560
234 Asp Gly Arg Thr Phe Tyr Ile Asp His Asn Ser Lys Ile Thr Gln Trp
235             565             570             575
237 Glu Asp Pro Arg Leu Gln Asn Pro Ala Ile Thr Gly Pro Ala Val Pro
238         580             585             590
240 Tyr Ser Arg Glu Phe Lys Gln Lys Tyr Asp Tyr Phe Arg Lys Lys Leu
241         595             600             605
243 Lys Lys Pro Ala Asp Ile Pro Asn Arg Phe Glu Met Lys Leu His Arg
244     610             615             620
246 Asn Asn Ile Phe Glu Glu Ser Tyr Arg Arg Ile Met Ser Val Lys Arg
247 625             630             635             640
249 Pro Asp Val Leu Lys Ala Arg Leu Trp Ile Glu Phe Glu Ser Glu Lys
```

```
250                 645              650              655
252 Gly Leu Asp Tyr Gly Gly Val Ala Arg Glu Trp Phe Phe Leu Leu Ser
253             660              665              670
255 Lys Glu Met Phe Asn Pro Tyr Tyr Gly Leu Phe Glu Tyr Ser Ala Thr
256         675              680              685
258 Asp Asn Tyr Thr Leu Gln Ile Asn Pro Asn Ser Gly Leu Cys Asn Glu
259     690              695              700
261 Asp His Leu Ser Tyr Phe Thr Phe Ile Gly Arg Val Ala Gly Leu Ala
262 705              710              715              720
264 Val Phe His Gly Lys Leu Leu Asp Gly Phe Phe Ile Arg Pro Phe Tyr
265             725              730              735
267 Lys Met Met Leu Gly Lys Gln Ile Thr Leu Asn Asp Met Glu Ser Val
268         740              745              750
270 Asp Ser Glu Tyr Tyr Asn Ser Leu Lys Trp Ile Leu Glu Asn Asp Pro
271         755              760              765
273 Thr Glu Leu Asp Leu Met Phe Cys Ile Asp Glu Glu Asn Phe Gly Gln
274     770              775              780
276 Thr Tyr Gln Val Asp Leu Lys Pro Asn Gly Ser Glu Ile Met Val Thr
277 785              790              795              800
279 Asn Glu Asn Lys Arg Glu Tyr Ile Asp Leu Val Ile Gln Trp Arg Phe
280             805              810              815
282 Val Asn Arg Val Gln Lys Gln Met Asn Ala Phe Leu Glu Gly Phe Thr
283         820              825              830
285 Glu Leu Leu Pro Ile Asp Leu Ile Lys Ile Phe Asp Glu Asn Glu Leu
286         835              840              845
288 Glu Leu Leu Met Cys Gly Leu Gly Asp Val Asp Val Asn Asp Trp Arg
289     850              855              860
291 Gln His Ser Ile Tyr Lys Asn Gly Tyr Cys Pro Asn His Pro Val Ile
292 865              870              875              880
294 Gln Trp Phe Trp Lys Ala Val Leu Leu Met Asp Ala Glu Lys Arg Ile
295             885              890              895
297 Arg Leu Leu Gln Phe Val Thr Gly Thr Ser Arg Val Pro Met Asn Gly
298         900              905              910
300 Phe Ala Glu Leu Tyr Gly Ser Asn Gly Pro Gln Leu Phe Thr Ile Glu
301         915              920              925
303 Gln Trp Gly Ser Pro Glu Lys Leu Pro Arg Ala His Thr Cys Phe Asn
304     930              935              940
306 Arg Leu Asp Leu Pro Pro Tyr Glu Thr Phe Glu Asp Leu Arg Glu Lys
307 945              950              955              960
309 Leu Leu Met Ala Val Glu Asn Ala Gln Gly Phe Glu Gly Val Asp
310             965              970              975
313 <210> SEQ ID NO: 3
314 <211> LENGTH: 854
315 <212> TYPE: DNA
316 <213> ORGANISM: Murine sp.
318 <400> SEQUENCE: 3
319 acaatggggg cgtggcagag aatggttctt cttactgtcc aaagagatgt ttaacccta 60
320 ctatggcctc ttcgagtact ctgccacgga caactacaca cttcagatca atcccaactc 120
321 aggcctctgt aatgaagacc atttgtccta tttcaccttc attggaagag ttgctggcct 180
```

VERIFICATION SUMMARY
PATENT APPLICATION: **US/09/463,844**

DATE: 09/21/2001
TIME: 18:44:55

Input Set : **A:\Dj265461.app**
Output Set: **N:\CRF3\09212001\I463844.raw**

```
L:213 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:2
L:452 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:4
L:792 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:9
L:793 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:9
L:794 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:9
L:795 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:9
L:852 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:13
L:929 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:17
```